

REMARKS

Claims 1-18 were pending. Claims 17 and 18 were withdrawn from consideration, and claims 1-16 stand rejected. By virtue of this response, claims 1, 14, and 15 are amended, claims 17 and 18 are cancelled, and no new claims are added. Accordingly, claims 1-16 are currently under consideration. Cancellation and amendment of certain claims is not to be construed as a dedication or abandonment of any unclaimed subject matter by Applicants, and moreover Applicants have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants explicitly reserve the right to pursue prosecution of any subject matter in continuation and/or divisional applications.

For the Examiner's convenience the remarks are presented in the same order in which they were presented in the Office Action.

Claim Rejections - 35 USC §102

Claims 1, 2, and 9 stand rejected under 35 U.S.C. §102(b) as being unpatentable over U.S. Patent No. 5,977,674, issued November 2, 1999 to *Leuthold et al.* (hereinafter referred to as "*Leuthold*").

In response, Applicants have amended independent claim 1, from which claims 2 through 9 depend, to more clearly recite aspects of the invention. Support for the amendment may be found in the present application at least in paragraph [0028], where it states "the apex of the herringbone is located at the corner itself, and each of the groove sections 226, 228 pumping mutually toward the apex...." See also, Figs. 3A, 3C, 3D, and accompanying description in the specification. Accordingly, no new matter has been added by the amendment.

Applicants submit that *Leuthold* does not disclose or suggest all of the features of independent claim 1, as amended. Specifically, *Leuthold* does not disclose or suggest a fluid dynamic bearing motor including a grooved corner bearing comprising first and second grooved surfaces at an angle to each other at a corner to form a single groove pattern over the corner,

“wherein the single groove pattern includes a single apex, the apex located at the corner to pump fluid in the gap toward the corner,” as recited by amended claim 1.

The examiner indicates that *Leuthold* discloses “...first and second adjacent grooved surfaces (Figures 4B and 5B) at an angle to each other at a corner to form a single groove pattern over the corner (clockwise direction, Figure 1), the grooved surfaces configured to pump fluid in the gap toward the corner (arrows 99 and 109, Figure 5A).” Applicants submit that *Leuthold* does not disclose, however, that a single groove pattern over the corner includes “a single apex, the apex located at the corner to pump fluid in the gap toward the corner.” *Leuthold* discloses in Figs. 4B and 5B grooved patterns, each having their own apex located away from the corner. Fig. 4B illustrates a chevron shaped thrust groove and Fig. 5B illustrates a chevron shaped journal (*Leuthold*: col. 5, lines 15-22 and 43-53). As described therein, each pattern pumps primarily to its local pattern apex, where the pattern is asymmetrical to cause a “net fluid flow” in the direction of the arrows 99 and 109 toward the corner (*Leuthold*: col. 5, line 38 to col. 6, line 9; FIG. 5A). Thus, *Leuthold* discloses two patterns having two separate apexes located away from the corner. In contrast, the grooved pattern over the corner as recited by claim 1 includes only “a single apex, which is located at the corner.” This feature is not disclosed or suggested by *Leuthold*.

Thus, the Applicants respectfully submit that claim 1, as amended, and claims 2-9 that depend therefrom, are not disclosed or suggested by *Leuthold*. Accordingly, Applicants respectfully request that the rejection be withdrawn and claims 1-9 be allowed.

Claim Rejections - 35 USC §103

A. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Leuthold* in view of Kataoka et al. (5,223,758).

As discussed above, *Leuthold* does not disclose or suggest a fluid dynamic bearing motor including a grooved corner bearing comprising first and second grooved surfaces at an angle to each other on a corner to form a single groove pattern over the corner, wherein the single groove pattern includes a single apex, the apex located at the corner to pump fluid in the gap toward the corner, as

recited by amended claim 1, from which claim 3 depends. The addition of *Kataoka* fails to disclose or suggest this feature of claim 1.

Thus, Applicants respectfully submit that amended claim 1, and claim 3 which depends therefrom, are not made obvious by *Leuthold* in view of *Kataoka*. Accordingly, Applicants respectfully request that the rejection of claim 3 under 35 U.S.C. §103(a) be withdrawn.

B. Claims 4-8 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Leuthold* et al. in view of *Ichiyama* (6,066,903).

As discussed above, *Leuthold* does not disclose or suggest a fluid dynamic bearing motor including a grooved corner bearing comprising first and second grooved surfaces at an angle to each other on a corner to form a single groove pattern over the corner, wherein the single groove pattern includes a single apex, the apex located at the corner to pump fluid in the gap toward the corner, as recited by amended claim 1, from which claims 4-8 and 10-12 depend. The addition of *Ichiyama* fails to disclose or suggest this feature of claim 1.

Regarding claim 13, as discussed above, *Leuthold* does not disclose or suggest a fluid dynamic bearing motor including “a single grooved pattern over a corner of the thrust plate configured to pump fluid toward the corner, wherein the single groove pattern includes a single apex, the apex located at the corner,” as recited by amended claim 13. The addition of *Ichiyama* fails to disclose or suggest this feature of claim 1.

Thus, Applicants respectfully submit that amended claim 13 is not made obvious by *Leuthold* in view of *Ichiyama*. Accordingly, Applicants respectfully request that the rejection of claim 13 under 35 U.S.C. §103(a) be withdrawn.

Regarding claim 14, as discussed above, *Leuthold* does not disclose or suggest fluid dynamic bearing motor including a thrust ring and having “a single grooved pattern over a corner of the thrust ring configured to pump fluid toward the corner, wherein the single groove pattern

includes a single apex, the apex located at the corner,” as recited by amended claim 14. The addition of *Ichiyama* fails to disclose or suggest this feature of claim 1.

Thus, Applicants respectfully submit that amended claim 14 is not made obvious by *Leuthold* in view of *Ichiyama*. Accordingly, Applicants respectfully request that the rejection of claim 14 under 35 U.S.C. §103(a) be withdrawn.

C. Claims 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Leuthold* et al. in view of *Heine* et al. (6,655,841).

In response, Applicants have amended independent claim 15, from which claim 16 depends, to more clearly recite aspects of the invention.

As discussed above, *Leuthold* does not disclose or suggest a fluid dynamic bearing motor including bearing grooves having a journal portion defined on one of the surfaces defining a gap between the shaft and the hub and a thrust portion defined on a surface between one of the first and second plates and the hub, the journal bearing portion and the thrust bearing portion being configured to pump fluid toward a common apex located at a corner, as recited by amended claim 15. The addition of *Heine* fails to disclose or suggest this feature of claim 15.

Thus, Applicants respectfully submit that claims 15 and 16 are not made obvious by *Leuthold* in view of *Heine*. Accordingly, Applicants respectfully request that the rejection of claims 15 and 16 under 35 U.S.C. §103(a) be withdrawn.

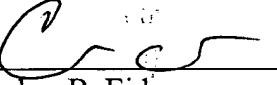
CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 146712007000. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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